

An
Inaugural Essay
on
Hydrothorax,
submitted
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of the University of Pennsylvania,
for the degree of M.D.

by
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Virginia

1822

admitted March 28th 1822

March 9th 1822

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Hydrothorax or Dropsy of the Chest.

A preternatural collection of a serous fluid into any cavity of the body has been termed a dropsy.

The disease however presenting different appearances and requiring different modes of treatment as it occurs in one or another part, physicists have added to the general term dropsy, others denoting each particular modification of it. Thus we have Anasarca or general dropsy. Ascites when the collection takes place within the cavity of the abdomen, and Hydrothorax, or as it is sometimes called Hydrops Pectoris, when within that of the chest.

In the last form of the disease my observations in the following essay are chiefly directed. I say chiefly, for I am unavoidably led to make many remarks

Phthisis or Emphysema of the Chest.

A phthisical condition of a man
is not only one of the body but also
of the mind. The disease is
of a chronic nature and requires
a long and tedious treatment. It
is a disease of the lungs and
is characterized by a cough
which is at first dry and
then becomes productive of
much sputum. The cough
is often accompanied by
breathlessness and
by a general debility of
the system. The disease
is often fatal and
requires a long and
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The term *Hydrothorax* is derived from two Greek words signifying water and chest.

Causes. The remote causes of Dropsy of the Chest are generally such diseases as by their long continuance or severity produce chronic or acute affections of some of the great viscera of the body, such as Intermitting fevers, jaundice, asthma, Pulmonary consumption, Pleurumonia &c. Gout, and long habitual indulgence in intemperance by weakening the powers of the Stomach, and through it the system, generally produce that condition of it, which Authors have termed the Cachectic, and which has been considered one of the most prominent causes of this disease.

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perhaps been the subject of more controversy than the proximate cause of dropsy. To any one acquainted with Physiology or Anatomy the fact is notorious that when the body is in a perfectly natural and healthy state, the exhalant vessels are continually pouring out a serous or watery fluid into every cavity of it, which is as quickly taken up and removed by the absorbents. This being the fact, and no one will deny that it is yet, we must consequently look to a loss of balance between the two as a cause of Dropsy. This perhaps is all that is necessary to be known as all agree that it is to the absorbents we are to direct our attention and remedies. Physiologists have however gone farther, and have endeavoured to ascertain which of the two were in fault, some contending that it is a loss of action in the Absorbents, others an increase of it in the

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cephalents. Not considering myself capable of offering an opinion on this subject I shall only state that the latter, I believe, is the one generally received by the Practitioners of our Country. Almost all agreeing, as I have already mentioned, that our attention and remedies are to be directed to the Absorbents, we might naturally conclude that aided in this views by the numerous and diversified articles which the Mat. Med. affords calculated for the purpose, the Practitioners of Medicine might have encountered Dropsy of the Chest under equal advantages with other diseases. This however is far from being the case, and is to be attributed in a great measure to the want of attention to the state of the system with which it may be associated. Whilst the English writers almost without an exception have considered Dropsy to be dependant on a cachectic or antiphlogistic dia-

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thesis, those of our own country on the con-
 trary have almost as universally held it to be
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 ter. As is sometimes the case the truth here
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 tionably often, and perhaps most frequently
 associated with the latter condition, yet it
 may sometimes occur in an opposite one.
 What else indeed than that can we look
 for an explanation of the curious fact, men-
 tioned particularly by Cullen that diuretic
 medicines which sometimes at most bene-
 ficially, do not at all answer in other in-
 stances the end wished for. The Humoral
 Pathologists were aware of this circum-
 stance, and endeavoured to explain the con-
 dition of the habit by particular names
 answering to that condition. Hence the
 terms Leucophlegmasia, Cachexy &c. These
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ones with which they were connected have fallen into disuse. Dr. Blackall a Physician of great eminence who has written one of the best works extant on Gout has directed our attention to the state of the urine as a test. From a number of experiments He was led to the following conclusions. That when it is coagulable like the serum of blood by heat or Nitric acid it indicates increased action, when differing from that of health in nothing but the smallness of quantity discharged it on the contrary indicates enfeebled action. That denoting diseased viscera is high coloured, and scanty, depositing a copious red sediment but not at all affected by heat or Nitric Acid. That the state of arterial action may influence that of the urine is highly probable, and from the respectability of the Author we may justly conclude it is worthy of trial.

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Symptoms. There is reason to believe that Hydrothorax may be forming for a number of years without occasioning any suspicion of the real nature of the disease. It usually commences with some degree of pain or uneasiness about the Epigastrium accompanied by a difficulty of breathing on any exertion, such as walking up an eminence or stairs. A dry hard cough is not an unfrequent attendant on this stage of the disease. These symptoms however in time, in some instances shorter others longer, increase in acuity and frequency, returning upon the slightest motion of the body, or emotion of the mind. The Patient is sometimes unable to place himself in a recumbent posture, and if he should be lying upon one side may be more comfortable than on the other, or on the back than either, owing to the effusion having taken place in one or other

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sack of the Pleura, or in both. - The face has a
pale livid appearance particularly the mouth
and nose, and upon any excitement becomes
black and swollen. - The breathing is hurried
and laborious in some instances attended with
great pain and calling the whole of the ab-
dominal muscles into action. - The cough is
now followed by copious expectoration in some
instances streaked with blood. - The urine is
for the most part considerably diminished
in quantity, with some adema of the
lower extremities. If the pulse be examined it
will be found to be quick, active, and irregu-
lar or intermitting with, in some cases, violent
palpitations of the heart. To these symptoms
there is one not unusually added which the
authors have termed Orthopnoea, that is, when
the patient has fallen into repose he is vexed
by a sense of suffocation which compels
him immediately to place himself in an

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out posture. St. Cullen remarked that he had never seen this symptom attending any other affection of the chest, and that when it was added to others particularly the difficulty of breathing and oedematous feet he had no doubt in concluding the existence of water in the chest.

Diagnosis. There are several diseases with which dropsy of the chest may be confounded, such as *Angina Pectoris*, *Asthma*, organic disarrangement of the heart and large bloodvessels and some affections of the stomach. From these however it may be distinguished by a careful examination into the History of the case. Two symptoms however have been mentioned as *Pathognomonic*. By *Crovisant* we are told that if while the Patient is erect we place one hand on the side of the Thorax and strike on the opposite side with the other a fluctuation may be perceived. *Bichat* has also informed us

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that by placing the Patient in a recumbent posture and pressing upon the Epigastrium great uneasiness or pain will be produced. Prognosis. The prognosis in this disease is difficult and unfavourable. So much so indeed that although the older writers appear to have been well acquainted with the history and appearances on dissection still they have left us very little to hope or expect as regards the cure. Even Cullen himself seems to have been of this opinion as he states that it seldom admits of a cure or even of alleviation from remedies. Yet I am happy that I have high authority for stating that Hydrothorax under favourable circumstances and treated in the manner I shall hereafter endeavour to lay down is as curable as the other forms of Dropsy particularly Ascites.

Treatment. The first object which generally demands our attention in the commencement of the treatment of Hydrothorax is the reduction of arterial action.

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The best mode of doing which is venesection - to be repeated
as often as the pulse and pain in the breast would
even to require. Cupping is an excellent auxiliary to the
lancet, and is even preferred to the lancet by some
they should be always applied to the back. Together
with these remedies a blister should be applied to
the chest and kept discharging for some time. If by
these means a cure cannot be accomplished the next re-
medy to be resorted to are diuretics, and of these the
hydrate of potash in the commencement is to be
preferred. The Squill alone or in combination has also
been long consecrated to this purpose. Some difference
of opinion however has existed as to the mode in
which it should be exhibited. Dr. Cullen supposed if
it was given in such doses as to effect the stomach
or bowels its diuretic properties were destroyed. Some
on the contrary maintained that it should be given
so as to actively operate on the stomach. In reference
to this controversy I do not know that I can do bet-
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ation to it. He remarks "the point in dispute is not whether Emetics or purgatives are useful in dyspepsy, but whether the peculiar powers of the Squill in these cases are best attained by pushing the medicine to this extent. He further adds that judging from his own experience a slight degree of nausea is the just medium in its employment nor is this absolutely necessary as he has seen it act most beneficially without having the slightest effect upon the stomach. Dr. Chapman's mode of administering it is in combination with calomel in the following proportions.

R. Squill 3grs.

Calomel 1gr. to be taken morning and night or oftener pro re nata.

As nearly allied to the squill in many of its properties the Garlic has been tried, and found highly useful

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particularly where the disease has been brought on by intemperance.

No article of the Materia Medica has ever, perhaps, had greater praises bestowed upon it than the Digitalis as a remedy in every form of Dropsy. Dr Hamilton who has written a treatise on it, has however gone farther in its praises in the particular form of the disease under consideration than any other writer ~~with~~ whom I am acquainted. He declares that after he "adopted the effusive use of this medicine in such cases I never have seen one, however advanced, or desperate, that was not speedily relieved by it; indeed it has, in such distressing instances, appeared possessed of powers infinitely beyond what could have been hoped from any medicine whatever, and almost approaching to certainty of effect. Happy indeed would it be for mankind could the Practitioners of medicine thus easily subdue

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a disease long considered incurable and even now one of the most formidable we have to contend with. That it is sometimes useful I should not the part of a sceptic to deny, though I have reason to believe that it should never be employed to the exclusion of the Squill and Calomel. The Digitalis is now generally administered in three different forms substance, tincture and infusion. The dose of the first to commence with is about one grain, of the second five or six drops if the preparation called the saturated tincture is used, if that made according to the London Pharmacopæia double the quantity is necessary, and of the last a tablespoonful. These doses should be daily increased slowly watching their effects. If during their use a membranous, tensive pain of the head, often over one eye, they should be immediately withheld. Dr. Withering supposed that

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where there was much strength or action of the system remaining it was unfavourable to its use in which opinion he is generally followed. Emetics from their known efficacy in other affections of the chest, and their great power of promoting absorption might a priori be supposed useful in Hydrothorax. Being however generally considered a dangerous remedy they are seldom resorted to.

It has been made a question whether a patient should be indulged in drink which an insupportable thirst accompanying this disease makes him very frequently desire. It is acknowledged by all Physiologists that when water is taken into the system it being in a perfectly healthy state that it is thrown out again by some one of the excretories. Some however have supposed that it has in some instances instead of being thus eliminated it has fallen into one of the cavities of the

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body and thus produced dropsy itself. Dr. Cullen on this subject remarks, that he has found an entire abstinence from drinks by throwing the secretory vessels of the kidneys into a state of contraction farther to diminish the quantity of urine discharged, and by that means increasing the effusion. He therefore lays it down as a rule, in which he is now generally followed, that when the quantity of water discharged is equal or nearly so to the quantity of water taken in, it will be advantageous to administer it freely. In support of his opinion we have the evidence of Sir G. Baker and Dr. Milman who have declared they have cured dropsy by this means. As to the kind of drinks water alone or combined with some of the vegetable acids is to be preferred. The next object is to restore tone to the system, and thus prevent a return of the disease. Bark and the Chalybeates are

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usually selected for this purpose; though Dr Blackall thinks there may be cases in which the bitter vegetable tonics will answer better. One thing however should be observed never to commence their use too soon least they should reproduce the disease. If during the tonic course of treatment the disease should have a tendency to return it would be proper to commence again with the use of diuretics, and here the potash in combination with some of the bitter tonics as recommended by Dr R. Pearson are to be selected.

Diet. With regard to diet during the convalescence it should be nourishing, but not stimulating or heating, and the patient should never be allowed to take much into his stomach at a time.

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